The 17-genome Prostate Cancer Score® (GPS™) test predicts adverse surgical pathology (AP) and recurrence in newly diagnosed low- and intermediate-risk prostate cancer (PCa) treated with immediate surgery.

Studies of the performance of GPS in men initially managed with active surveillance (AS) are limited.

METHODS

Diagnostic biopsy tissue was obtained from 634 men enrolled at 8 sites in PASS between August 2008 and February 2016.

The primary endpoint was time to AP (Gleason GG ≥3, ≥pT3a, or N1) in men who underwent radical prostatectomy (RP).

The secondary endpoint was time to upgrade (any increase in Gleason GG) on surveillance biopsy.

Multivariate regression models for interval censored data were used to evaluate the association between time to AP and GPS result. Inverse probability of censoring weighting was applied to adjust for informative censoring.

Association between GPS result and time to Gleason score upgrade on surveillance biopsy was evaluated using a Cox Proportional Hazards model.

RESULTS

Diagnostic tissue blocks were obtained for 634 patients • 17 (3%) did not meet inclusion criteria • 174 (27%) had insufficient tumor to assay

Valid GPS results were obtained for 432 men • Median follow-up 4.6 [IQR: 2.9-6.2] years • 167 upgraded at subsequent biopsy

101 men underwent RP with central pathology review • Median time to treatment of 2.1 [IQR: 1.3-4.3] years • 52 had AP at surgery

Performance of the 17-genome Prostate Cancer Score test in men with prostate cancer managed with active surveillance: Results from the Canady Prostate Active Surveillance Study (PASS)

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Table 1. Participant characteristics at diagnosis, recorded either as median (IQR) or n (%). *Biopsy Gleason score for entire PASS cohort and available FFPE blocks by clinical site pathology report, and Gleason score of patients with GPS and RP by central review. **NCCN risk group determined for entire PASS cohort and available FFPE blocks using Gleason score of patients with GPS and RP by central review.

Table 2. Univariable hazard ratios (HRs) for association of variables at diagnosis with APTIME, the primary endpoint in PASS (years) when adjusted for diagnostic biopsy upgrade in 432 men using AS.

Table 3. Multivariable models for time to AP (n = 101).

CONCLUSIONS

In a cohort of men on AS, GPS was associated with time to AP when adjusted for diagnostic GG or dichotomous PSAD.

GPS was not significantly associated with AP at surgery after adjustment for continuous PSAD, although a trend was suggested, suggesting an association may be seen in a larger study.

GPS was not associated with upgrading in surveillance biopsy.